

FIGURE 1

FIG. 2 is a schematic diagram of a system for measuring the thickness of a material. The system includes a light source 12, a collimating lens 13, a sample 14, a detector 15, a mirror 16, a beam splitter 17, a reference material 18b, and a detector 19. The light source 12 emits a beam of light that passes through the collimating lens 13 and is directed at the sample 14. The sample 14 is a rectangular block with a central square region 26. The light reflected from the sample 14 is directed to the detector 15. The mirror 16 is positioned to reflect the light from the sample 14 to the beam splitter 17. The beam splitter 17 is positioned to split the light into two paths: one path is directed to the detector 19, and the other path is directed to the reference material 18b. The reference material 18b is a rectangular block with a central square region 26. The light reflected from the reference material 18b is directed to the detector 19. The detector 19 is positioned to receive the light from both the sample 14 and the reference material 18b. The system is used to measure the thickness of the sample 14 by comparing the light intensity from the sample 14 to the light intensity from the reference material 18b.

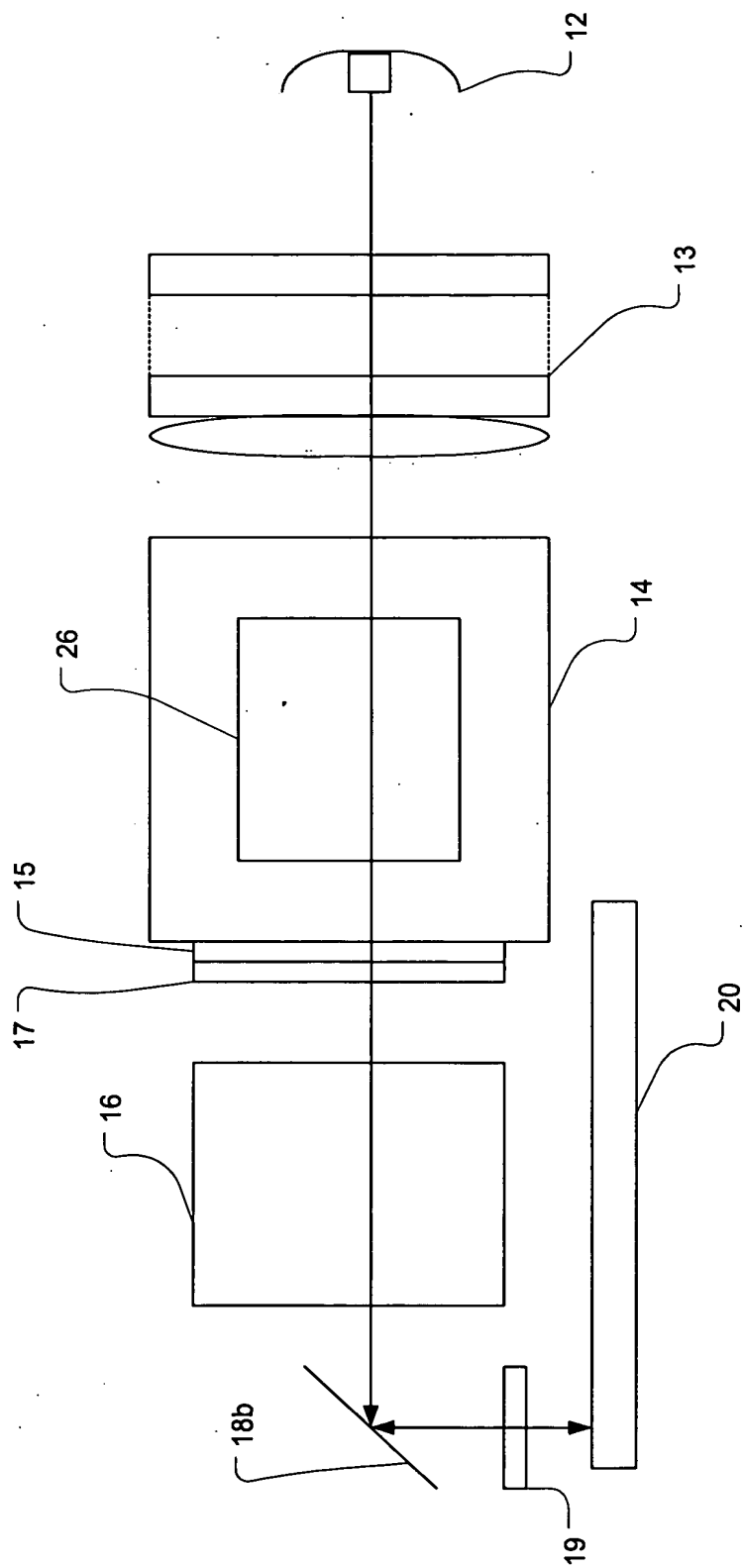


FIGURE 2

11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

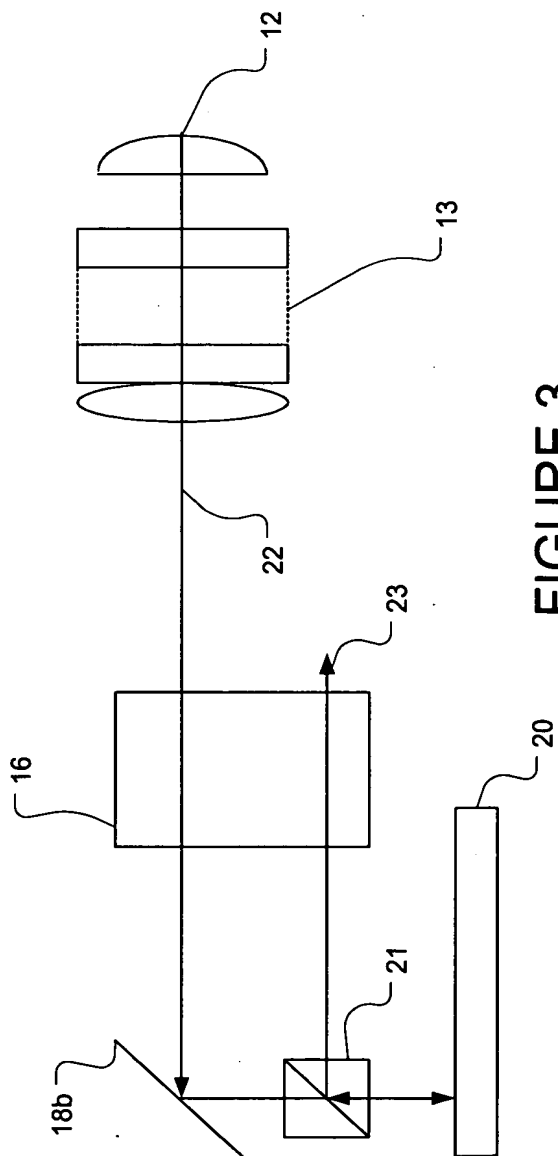


FIGURE 3



FIGURE 4

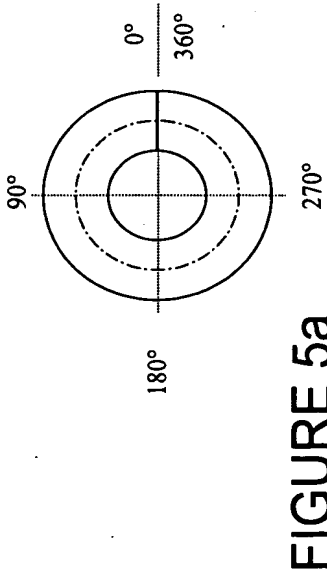


FIGURE 5a



FIGURE 5b



FIGURE 5c



FIGURE 5d

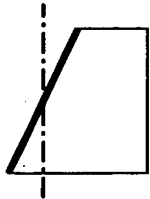


FIGURE 5f

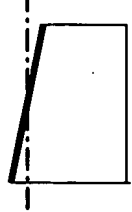


FIGURE 5e

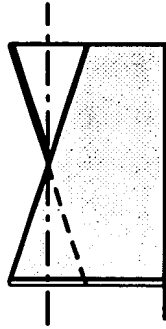


FIGURE 6